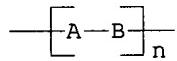


OPTICAL FILM COMPRISING POLYARYLATES CONTAINING BIS-(HYDROXYPHENYL)-FLUORENE-ORTHO-DISUBSTITUTED BISPHENOLS

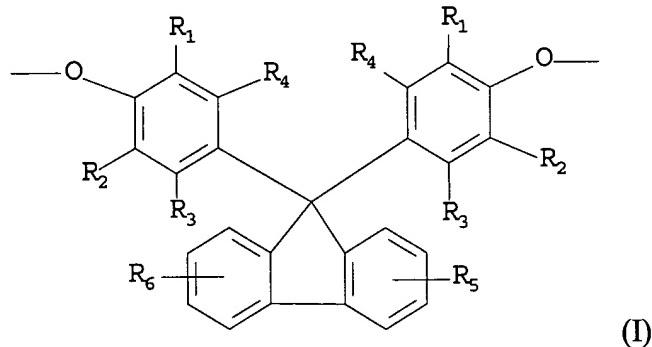
**Claims**

- 5 1. A polymeric optical film the polymer of the polymeric optical film consisting essentially of one or more polyarylates having repeating units represented by the general structure:



wherein A represents one or more different bisphenolfluorene radicals having the general formula (I):

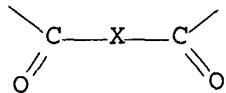
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- wherein R<sub>1</sub> and R<sub>2</sub> independently represent an alkyl group, a halogen atom, an alkoxy group, an acyl group, a phenyl group or a nitrile group, with the proviso that R<sub>1</sub> and R<sub>2</sub> are not both an alkyl group; R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub> represent a hydrogen atom, an alkyl group, a halogen, an alkoxy group, an acyl group, a phenyl group, a nitro group, or a nitrile group, with the proviso that when R<sub>1</sub> and R<sub>2</sub> are both bromide atoms, at least one of R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub> is different from hydrogen atom;

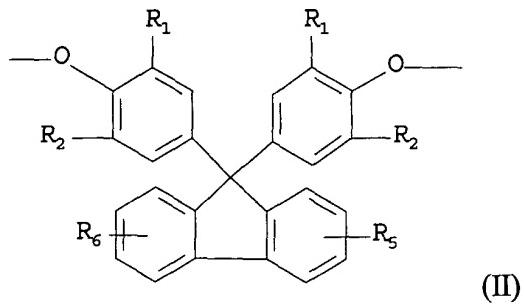
B represents one or more different dicarboxy radicals having the formula:

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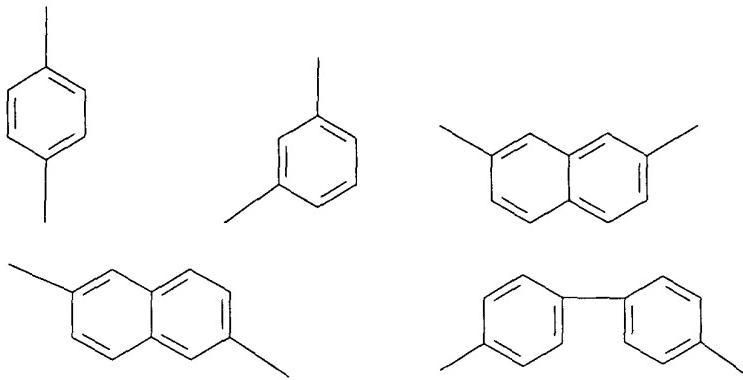
wherein X is a divalent aromatic hydrocarbon group having from 6 to 20 carbon atoms, and n is the number of the repeating units which build up the polymer and is a positive integer higher than  
5 20.

2. The optical film of claim 1, wherein said bisphenolfluorene radical A is represented by the formula:

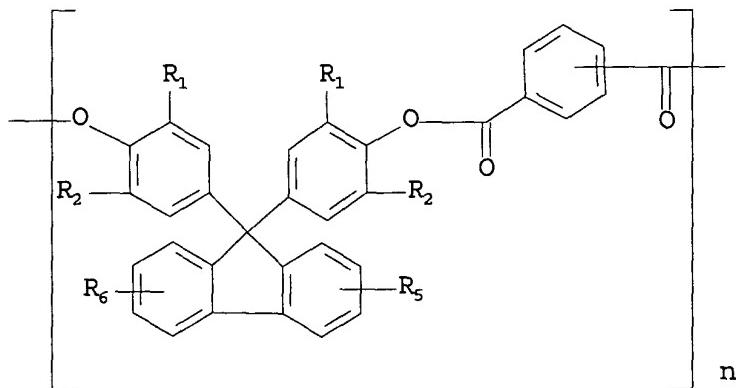


10 wherein R<sub>1</sub> and R<sub>2</sub> represent an alkyl group or a halogen with the proviso that R<sub>1</sub> and R<sub>2</sub> are not both an alkyl group; and  
wherein X in said dicarboxy radical B is a 6 to 12 carbon atom divalent aromatic hydrocarbon  
15 group.

3. The optical film of claim 1, wherein said divalent aromatic hydrocarbon group X is selected from the group consisting of:



4. The optical film of claim 1, wherein said one or more polyarylates are represented by the  
5 formula:

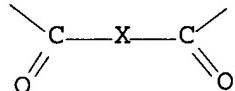


wherein R<sub>1</sub> and R<sub>2</sub> represent an alkyl group, a halogen atom, an alkoxy group, an acyl  
10 group, a phenyl group or a nitrile group, with the proviso that R<sub>1</sub> and R<sub>2</sub> are not both an alkyl  
group; R<sub>5</sub> and R<sub>6</sub> represent a hydrogen atom, an alkyl group, a halogen, an alkoxy group, an acyl  
group, a phenyl group, a nitro group, or a nitrile group, with the proviso that when R<sub>1</sub> and R<sub>2</sub> are  
both bromide atoms, at least one of R<sub>5</sub> and R<sub>6</sub> is different from hydrogen atom; and n is a  
positive integer higher than 20

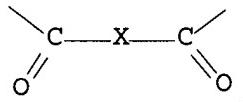
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5. The optical film of claim 3, wherein said one or more polyarylates comprise a at least a

first dicarboxy radical according to the formula



and a second dicarboxy radical differing in structure from said at least a first dicarboxy radical, the second dicarboxy radical having the formula



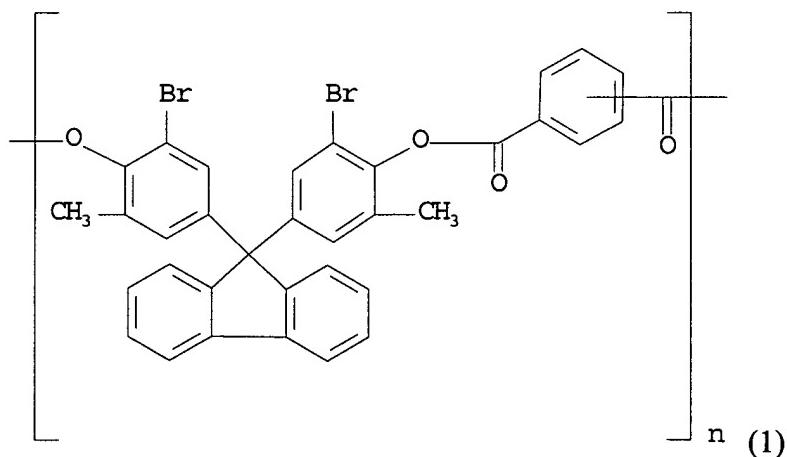
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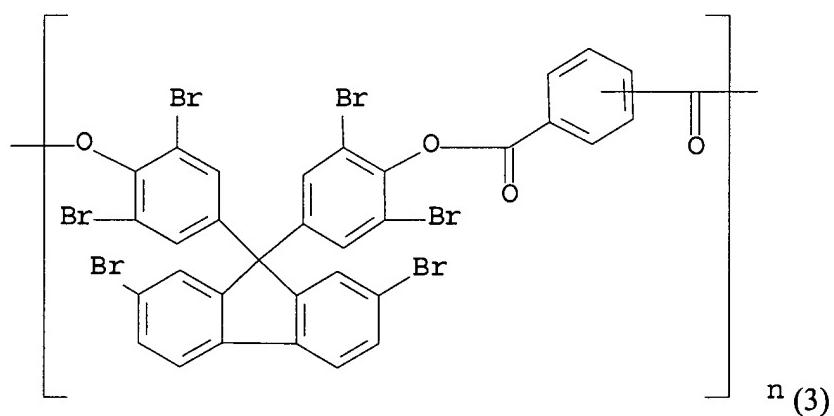
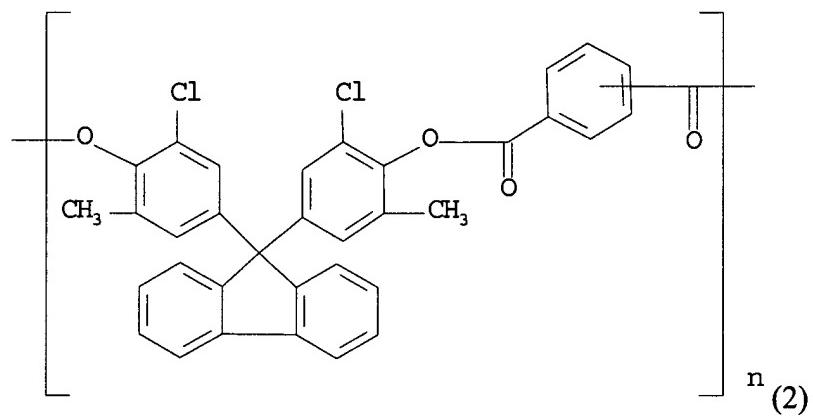
the weight ratio between said first dicarboxy radical and said second dicarboxy radical being of from 1:10 to 10:1 and X is as previously defined.

6. The optical film of claim 5, wherein said first dicarboxy radical is deriving from  
10 isophthalic acid and said second dicarboxy radical is deriving from terephthalic acid.

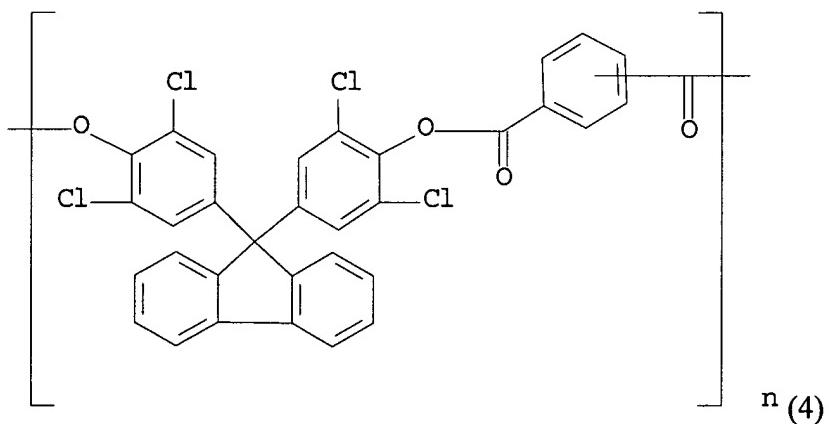
7. The optical film of claim 6, wherein the weight ratio between said first and second dicarboxy radicals is of from 1:4 to 4:1.

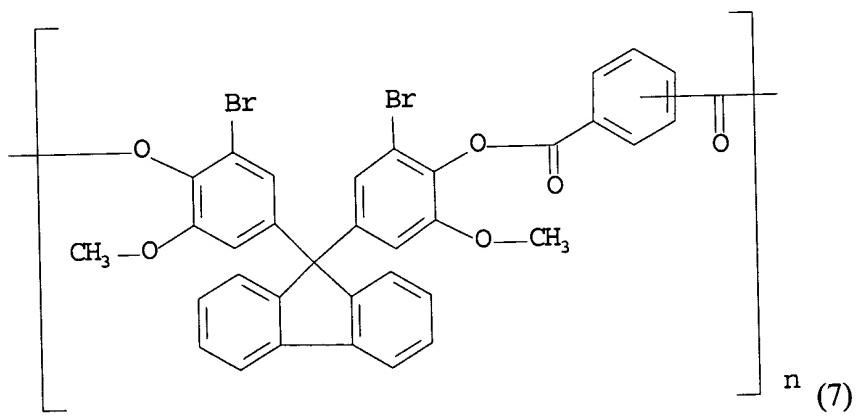
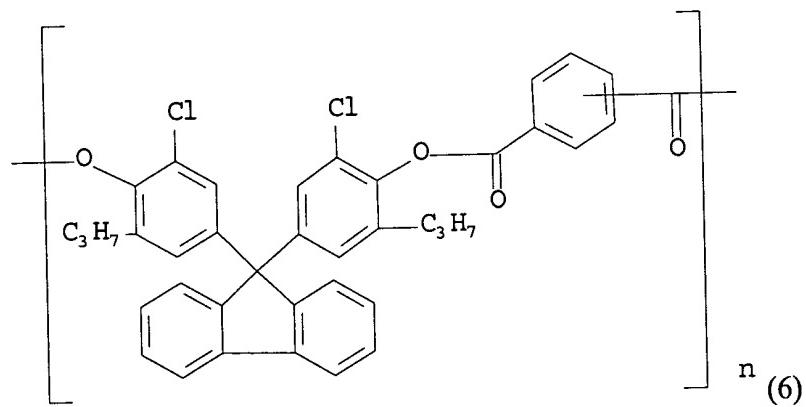
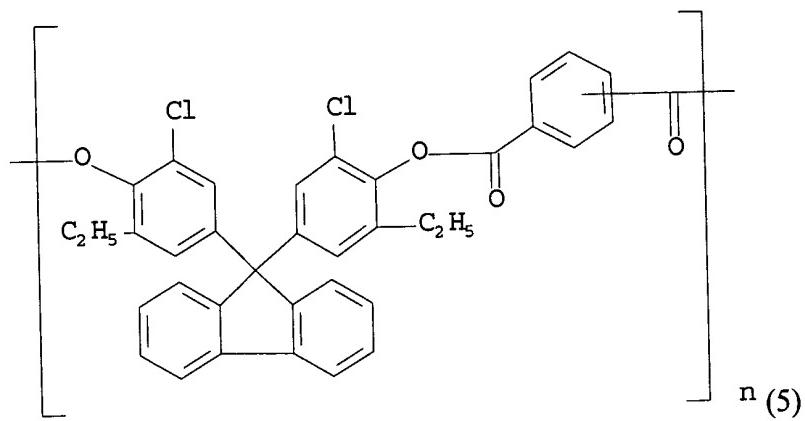
15 8. The optical film of claim 1, wherein said one or more polyarylates are selected from the group consisting of:

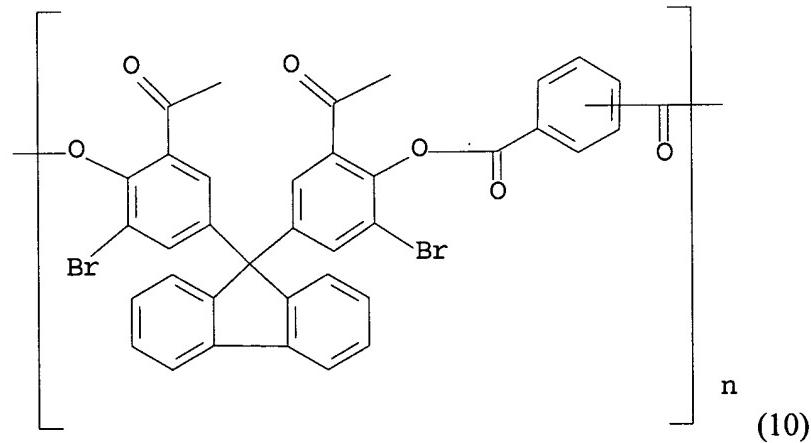
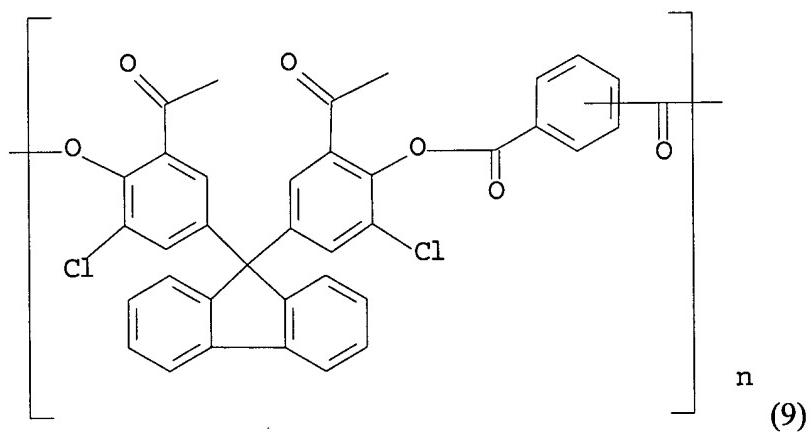
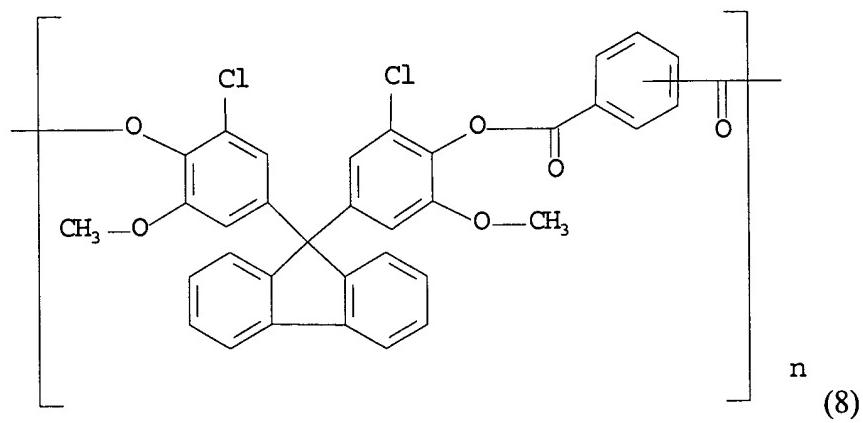


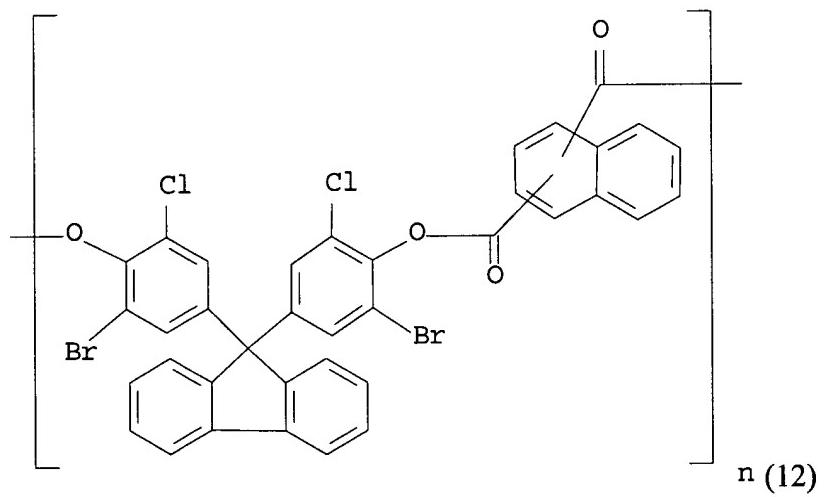
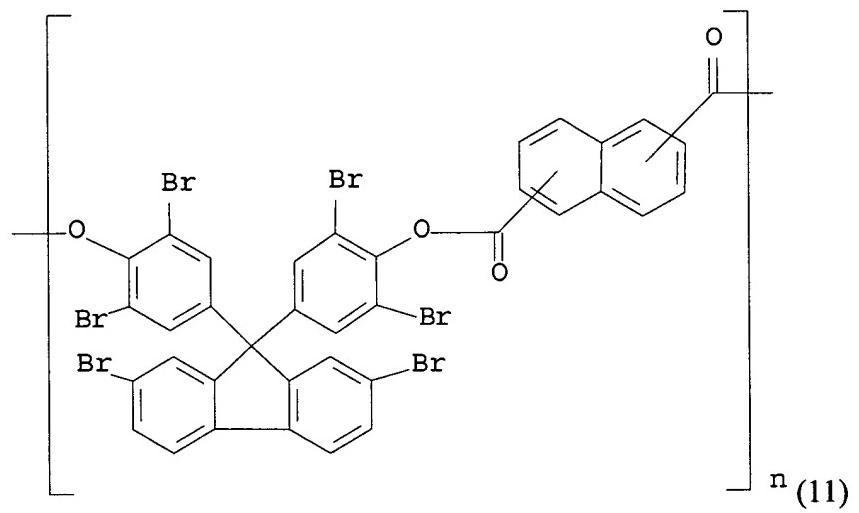


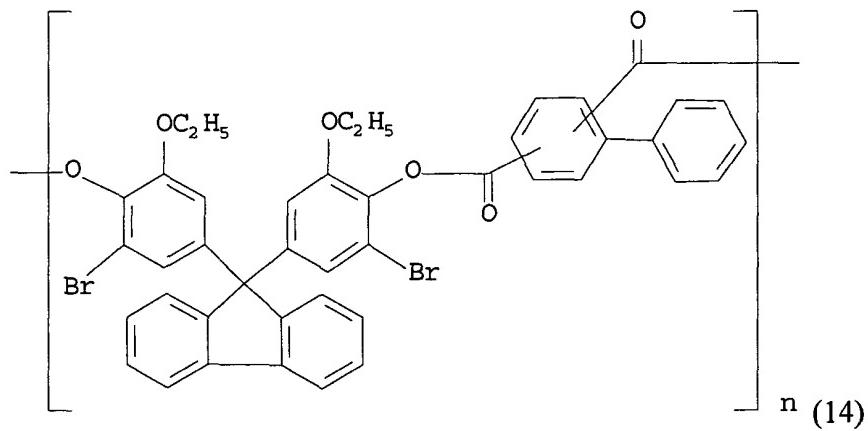
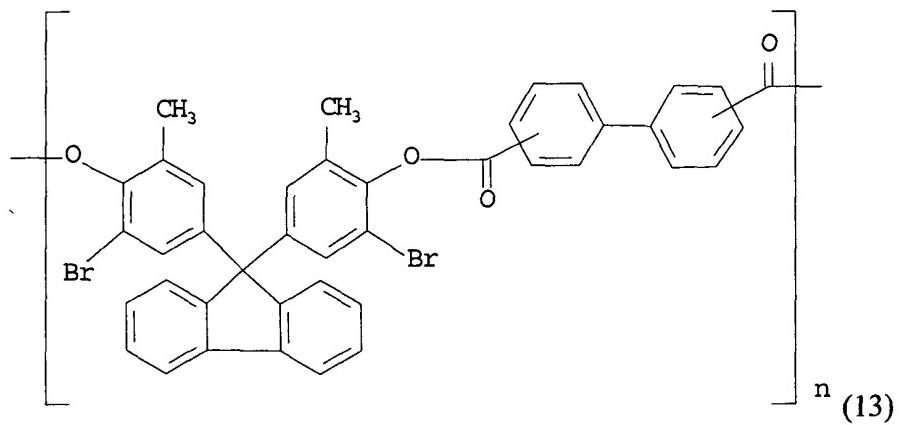
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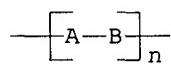




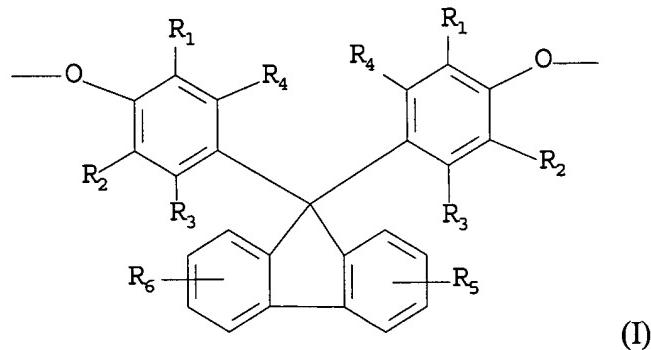




- 5 wherein  $n$  is the number of repeating units and is an integer higher than 20.
9. A polymeric optical film wherein the polymer of the optical film consists of one or more polyarylates having repeating units represented by the general structure:



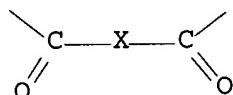
- 10 wherein  $A$  represents one or more different bisphenolfluorene radicals having the general formula (I):



wherein R<sub>1</sub> and R<sub>2</sub> independently represent an alkyl group, a halogen atom, an alkoxy group, an acyl group, a phenyl group or a nitrile group, with the proviso that R<sub>1</sub> and R<sub>2</sub> are not both an alkyl group; R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub> represent a hydrogen atom, an alkyl group, a halogen, an alkoxy group, an acyl group, a phenyl group, a nitro group, or a nitrile group, with the proviso that when R<sub>1</sub> and R<sub>2</sub> are both bromide atoms, at least one of R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub> is different from hydrogen atom;

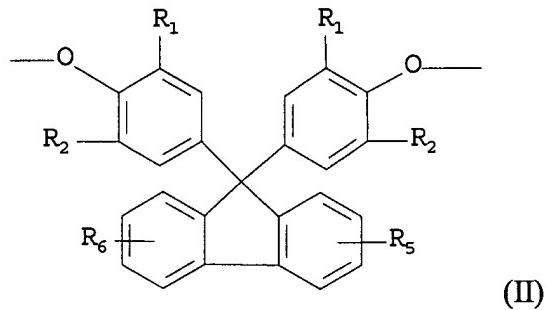
B represents one or more different dicarboxy radicals having the formula:

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wherein X is a divalent aromatic hydrocarbon group having from 6 to 20 carbon atoms, and n is the number of the repeating units which build up the polymer and is a positive integer higher than  
15 20.

10. The polymeric optical film of claim 9, wherein said bisphenolfluorene radical A is represented by the formula:

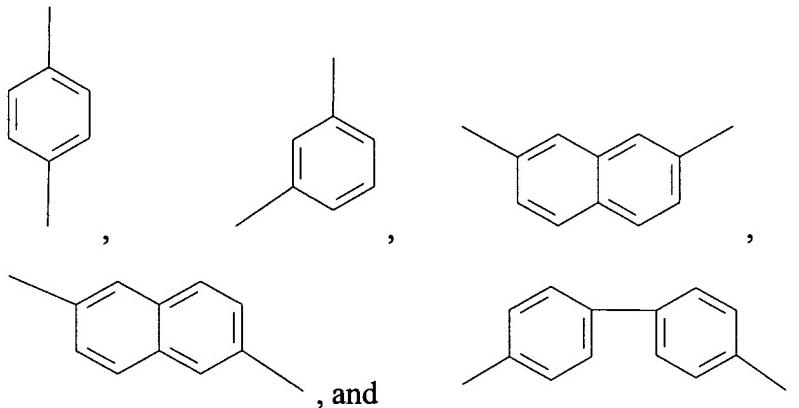


wherein R<sub>1</sub> and R<sub>2</sub> represent an alkyl group or a halogen with the proviso that R<sub>1</sub> and R<sub>2</sub> are not both an alkyl group; and

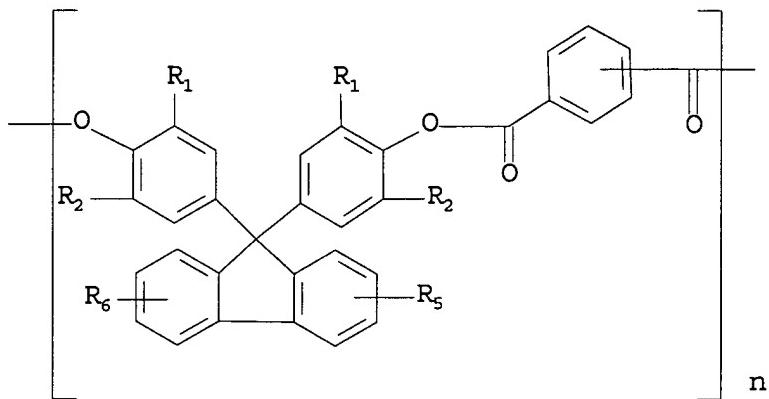
- 5 wherein X in said dicarboxy radical B is a 6 to 12 carbon atom divalent aromatic hydrocarbon group.

11. The polymeric optical film of claim 9, wherein said divalent hydrocarbon group X is selected from the group consisting of:

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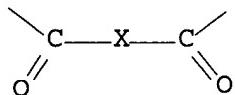


12. The polymeric optical film of claim 9, wherein said one or more polyarylates are  
15 represented by the formula:



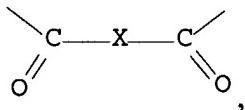
wherein R<sub>1</sub> and R<sub>2</sub> represent an alkyl group, a halogen atom, an alkoxy group, an acyl group, a phenyl group or a nitrile group, with the proviso that R<sub>1</sub> and R<sub>2</sub> are not both an alkyl group; R<sub>5</sub> and R<sub>6</sub> represent a hydrogen atom, an alkyl group, a halogen, an alkoxy group, an acyl group, a phenyl group, a nitro group, or a nitrile group; and n is a positive integer higher than 20.

13. The optical film of claim 11, wherein said one or more polyarylates comprise at least a first dicarboxy radical according to the formula



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and a second dicarboxy radical differing in structure from said at least a first dicarboxy radical, the second dicarboxy radical having the formula



the weight ratio between said first dicarboxy radical and said second dicarboxy radical being of  
15 from 1:10 to 10:1 and X is as previously defined.

14. The optical film of claim 13, wherein said first dicarboxy radical is derived from isophthalic acid and said second dicarboxy radical is derived from terephthalic acid.

15. The optical film of claim 14, wherein the weight ratio between said first and second dicarboxy radicals is of from 1:4 to 4:1.

5      16. The optical film of claim 1 wherein the polymer has a Tg of between 342<sup>o</sup>C and 365<sup>o</sup>C.

17. The optical film of claim 6 wherein the polymer has a Tg of between 342<sup>o</sup>C and 365<sup>o</sup>C.

18. The optical film of claim 9 wherein the polymer has a Tg of between 342<sup>o</sup>C and 365<sup>o</sup>C.

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19. The optical film of claim 14 wherein the polymer has a Tg of between 342<sup>o</sup>C and 365<sup>o</sup>C.

20. A liquid crystal screen comprising at least one panel or flattened layer represented by the optical polymeric film of claim 1.

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21. An electroluminescent screen comprising at least one support and protective layer represented by the optical polymeric film of claim 1.

22. A polarizer transparent conducting film comprising at least one layer represented by the  
20      optical polymeric film of claim 1.

23. A liquid crystal screen comprising at least one panel or flattened layer represented by the optical polymeric film of claim 9.

25      24. An electroluminescent screen comprising at least one support and protective layer represented by the optical polymeric film of claim 9.

25. A polarizer transparent conducting film comprising at least one layer represented by the optical polymeric film of claim 9.